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AUTHOR Marr, John N.; And Others
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ABSTRACT

This study investigates the following hypothesis: If the teacher instructs the aide to reinforce good behavior in children, and reinforces the aide for carrying out her instructions, the children' s appropriate behavior will increase. Subjects were seven teacher-aide teams and seven pairs of retarded children (5-20 years of age). For each child, the aide recorded three weeks of baseline data, reinforced the child for appropriate behavior for three weeks, and was reinforced by the teacher for three weeks. Results were inconsistent, but indicated that teacher-reinforcement-of-aide had a variable effect on target behaviors. For some children (n=7) it resulted in behavioral improvement, while for others (n=6) it had no effect or a negative effect. In one case, it had an effect on one behavior but not on another. This study indicates that reinforcement effects can be chained from teacher to aide to child. Teachers can train aides to reinforce children's behaviors effectively. However, instructions to teachers to reinforce others proved insufficient training procedures to produce effective and frequent reinforcement of aides by teachers. (Author/JLL)

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Chaining the Reinforcement Effect from Teacher Through Aide to Child

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John N. Marr, Ph.D., Frances Everett, Ph.D.,
Christine L. Allegretti, M.A., William Cochran, M.A.,
Jane A. Fitzgerald, M.A.

Department of Psychology
University of Arkansas

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Department of Psychology
University of Arkansas
Fayetteville, AR 72701
501/575-3656

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Chaining Reinforcement Effects
from Teacher to Aide to Child

Previous research at this school for retarded children had investigated the effect of consultants' prompting and reinforcing behavior on teachers' behaviors of recording and graphing (Marr, Hinman, & Rowland, Note 1). Verbal and telephone message prompting had no effect, but shaping and reinforcing produced a dramatic increase in the graphing of children's problem behaviros. That study did not measure the effect of increased measurement behavior by the teacher on the children's behavior.

The present research investigated the effect of instruction and reinforcement given to the aide by the teacher on the children's behavior. Research reported by Kazden and Moyer (1976) have indicated that instruction on the use of reinforcement is not consistently effective; but Paul McInnis & Mareotto (1973) found that training in the actual situation in which the techniques will be employed is effective. We hypothesized that having the teacher who is in the room with both aide and child instruct the aide in the method of reinforcement and reinforce the aide for carrying out the instruction would result in an increase in appropriate behavior and a decrease in problem behaviors of the children.

Method

Following a one-day workshop on measurement of behaviors, each of seven teacher-aide teams selected from their classrooms two children who had problem behaviors. The aides received all other

instructions about measurement, records and reinforcement from the teachers. The seven pairs of children ranged from 5-20 yrs. of age--one member of each pair was randomly assigned to Group 1 while the other to Group 2. For each child, the aide recorded three weeks of baseline data, reinforced the child for appropriate behavior for three weeks, and was reinforced by the teacher for working with the child for the last three weeks. The aide measured the child's behavior for two 15-minute periods daily throughout the study. In addition, videotape recordings were made at the end of three, six, and nine weeks during one of the aide-observation periods. A multiple-baseline design resulted in Group 2 children entering each of the three phases of the study two weeks after Group 1 children.

The problems selected by the teacher-aide teams were off-task (n=8), talking out (2), interfering with others (1), inappropriate social behaviors (1), biting and hitting (1), and failure to follow instructions (1). Each problem was given an explicit behavioral description by the consultant in conjunction with the teacher. Appropriate behavior incompatible with the problem behavior was specified in writing by the consultant, and described to the teacher at the end of the three-week baseline period. The teacher and consultant selected a reinforcement for the appropriate behavior. The teacher then described the appropriate behavior and method of reinforcement to the aide and instructed the aide to begin reinforcing the child for the appropriate behavior throughout the school day.

At the end of the third week of reinforcement of the child, the consultant met with the teachers to discuss and practice methods of reinforcing the aides for reinforcing the children. The teachers agreed to begin verbally reinforcing the aides for working with the Group 1 children and each agreed to keep a record of her verbal reinforcement of the aide. Since some teachers had voiced a discomfort with verbal reinforcement of adults, they were shown a consultant-written paragraph praising each aide at the end of the first week of teacher-reinforcement of aide phase. Teachers agreed to tell their aide about that praise at the beginning of the second week while continuing to verbally reinforce their aides. At the end of the second week of this phase, the consultant gave each teacher a graph of the child's behavior as measured by the aide during the first six weeks and instructed each teacher to show the graph to her aide, compliment, and continue verbal reinforcement.

Seven trained observers who had attained reliable measures in behavioral assessment from other tapes (.90-1.00) were used to score the videotapes for each child's behavior and for aide-reinforcement. None of the ovservers were told what behavioral procedures were being used at the school and all were told that some of the children might be control subjects. The reliability coefficients for aides' measurements when compared to the videotape measures ranged from .71 to .99 with an average of .86. In addition, the scores of observers and aides for all behaviors were compared at baseline (.74), aide treatment phase (.81), and teacher reinforcement phase (.85).

Results

Data for each child were graphed, and the graphs for each pair of children from the same classroom were shown together for comparison. The graphs show the average daily measurement for each week obtained by the aide for each child across nine weeks, and the independent measurements obtained by videotape taken at three, six, and nine weeks. Each child's graph shows baseline, aide reinforcement of child, and teacher-reinforcement-of-aide phase. For the purposes of this paper the on-task data were averaged for each group and are shown in Figure 1. These results were fairly typical of the data obtained from all children. Reinforcement by the aide of Group 1 children resulted in an increase in on-task behavior for Group 1 children but no apparent effect on Group 2 children. Group 2 children showed an increase in on-task behavior following direct reinforcement for their own on-task behavior. The videotape measures also show these increases.

When the teachers were instructed to reinforce the aides for reinforcing children in Group 1, there was another increase in on-task-behavior of Group 1 children, but no apparent effect on Group 2 children. The Group 1 children did not sustain their increase even though the teachers were instructed to continue giving verbal reinforcement to the aide, to convey specific compliments from the consultants, and to show the aides graphs of the first six weeks. Group 2 children showed a reduction in on-task-behavior in the week following the consultant's instructions to the teacher to initiate verbal reinforcement of the aide for working with Group 2 children. However, on-task-behavior

increased in these children after the teacher was instructed to convey the consultants' compliments of the aide's work with these children and then another dramatic decrease after the teacher was instructed to show the aides graphs of Group 2 children's improvements in on-task-behavior. The videotape measures showed that teacher-reinforcement-of-aide resulted in a reduction of on-task-behavior for Group 1 children but no increase in on-task behavior for Group 2 children.

Examination of the aide-data graphs for individual children helps to clarify these inconsistent results. Teacher-reinforcement-of-aide had a variable effect on target behaviors. For some children (n=7) it resulted in behavioral improvements while for others (n=6) it appeared to have no effect or a negative effect. In one additional case it had an effect on one behavior but not on the other. In two cases the lack of improvement appears to be due to a ceiling effect, i.e. the children had already decreased problem behaviors to near zero prior to teacher-intervention phase. The variable effect of teacher intervention was also probably due to the variance among teachers in reinforcing their aides. This is supported by the actual reports by teachers of their interactions with aides.

Discussion

This study indicates that reinforcement effects can be chained from teacher to aide to child. Teachers can teach aides to reinforce children's behaviors so that the appropriate

behaviors increase and inappropriate behaviors decrease. However, the instructions to teachers to reinforce others proved insufficient training procedures to produce effective and frequent reinforcement of aides by teachers. When verbal reinforcement was given for treatment of some of the children, the appropriate behaviors of those children did seem to increase; but the frequency of reinforcement of these children showed no apparent increase. The latter may have been due to a decrease in reinforcement of children during videotaped sessions.

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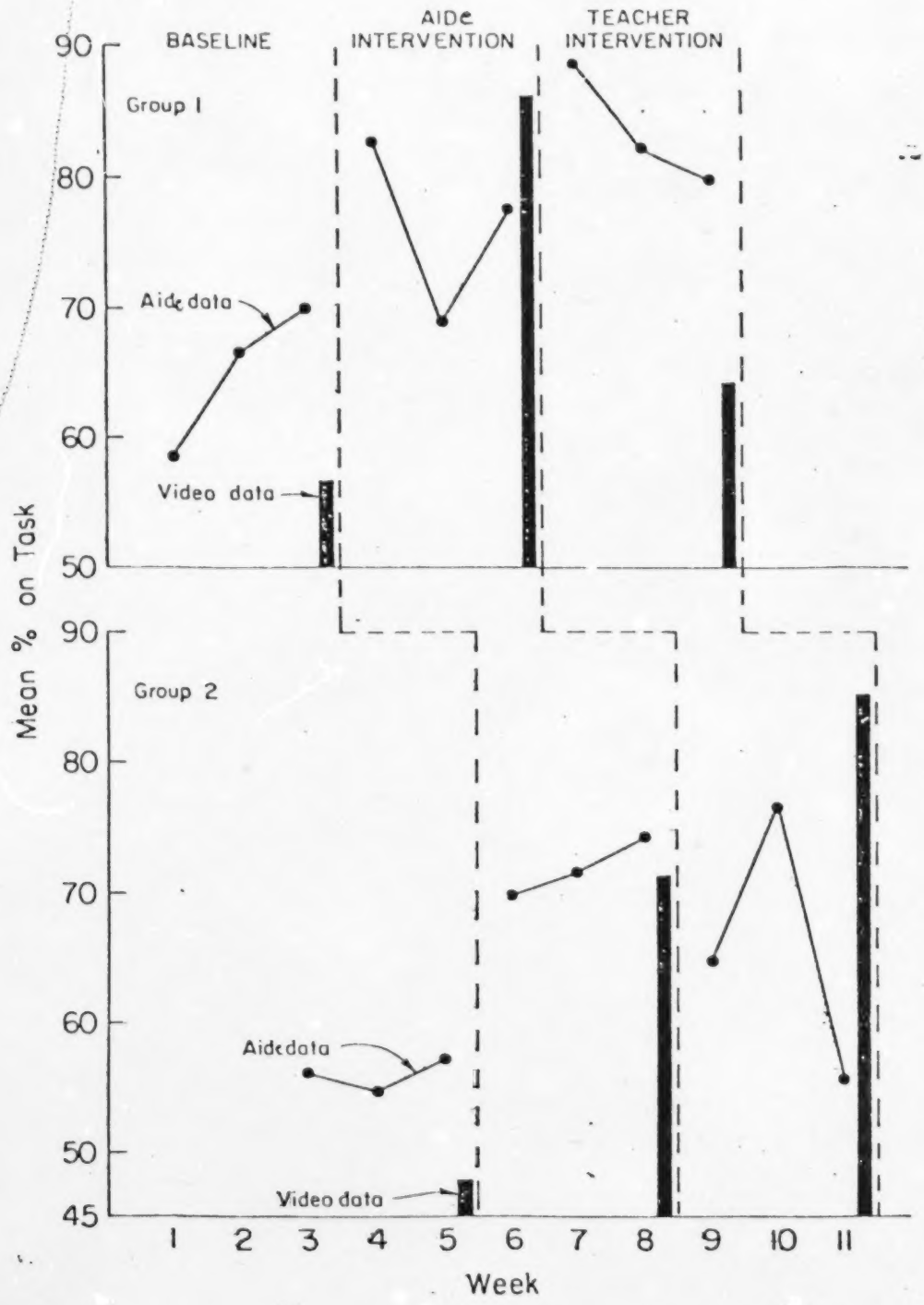

Figure 1. Percentage of on-task behavior of children during baseline, following reinforcement of on-task behavior by aide (Aide Intervention), and following instructions to teachers to reinforce aides for working with the children (Teacher Intervention).